*****Suspended*****

Trend Study 3-14-96

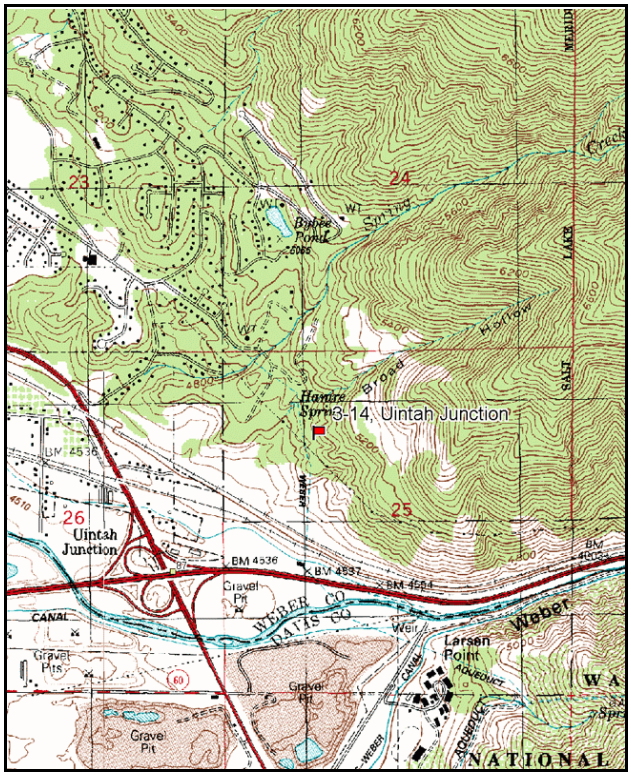
Study site name: Uintah Junction . Vegetation type: Mixed Oak-Sage .

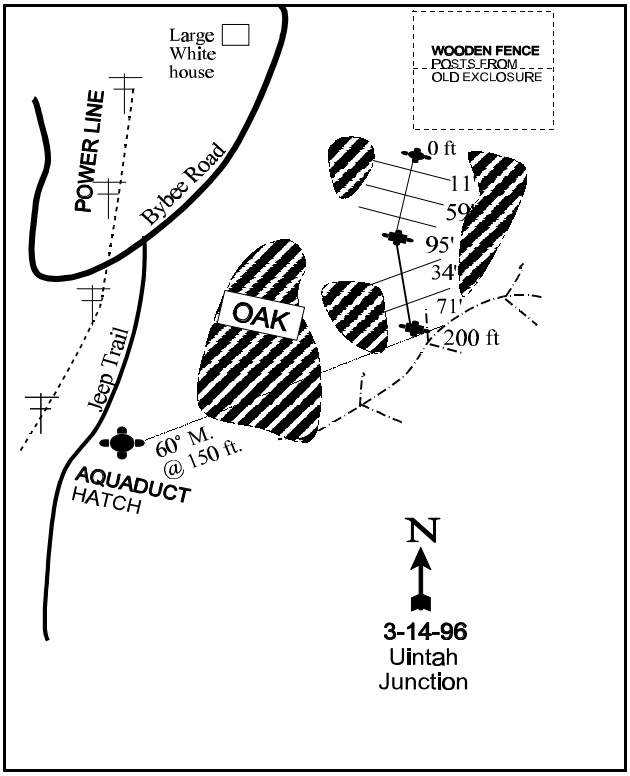
Compass bearing: frequency baseline 165 degrees magnetic.

Frequency belt placement: Line 1 (11, 59, & 95ft), line 2 (34 & 71ft).

LOCATION DESCRIPTION

Beginning at the point above Uintah Junction where the railroad crosses U-89 (two tracks 300 yards apart), travel northwest on U-89 for approximately 100 yards then turn right on Combe Road. Proceed northeast on Combe Road for 0.5 miles to Woodland Drive. Turn right, go 100 yards up Woodland Drive and turn right on Bybee Road. Proceed on Bybee for approximately 1 mile, past new (1990) homes and building lots to where the new road passes under a powerline. At the mouth of the small draw to the east, there is a concrete aqueduct hatch. The beginning of the baseline is on the skyline to the northeast, 250 feet bearing 24 degrees from the concrete hatch. The 0-foot baseline stake is marked by a browse tag.





Map Name: Ogden

Diagrammatic Sketch

Township 5N , Range 1W , Section 25

UTM 4554810 N 424010 E

DISCUSSION

Trend Study No. 3-14

*****SUSPENDED** - This site was suspended in 2001 and will be reevaluated in 2006. This is a poor site as it lies in close proximity to homes and is dominated by Gambel oak brush. Very little sagebrush remains on the site. Deer pellets were found only on game trails transecting the slope. This site was evaluated by the Assistant Project Leader's and suspended due to very little wildlife use and lack of key browse. Text and data tables are included from the 1996 report.

The Uintah Junction study is located on the foothills of the Wasatch Face just north of the mouth of Weber Canyon. The site initially sampled critical and very limited winter range on the front. These low elevation slopes (4,880 feet at the study site) were used heavily by deer in the early 1980's. The steep west facing slopes are covered by a mixture of Gambel oak and sagebrush. The transect is on private land. Land to the north is managed as a protected watershed by the Forest Service and part of the section is owned by the DWR. Development is progressing on the more suitable sites, but as this area is so steep and on an aqueduct, it will probably not be converted to a subdivision. Houses occur 300 yards from the site, and off road vehicle use is a possible threat to soil stability.

The soil is a moderately deep, well-drained clay loam with a neutral soil reaction (7.2 pH). Limestone rock that occurs on the surface is covered by litter. Phosphorus and potassium could both be a limiting factor with only 4.1 and 20.7 ppm where values of 10 and 70 ppm respectively, have been shown to limit plant growth and/or development. Soil temperature is very high (80° F at 16") due to the aspect and slope. The potential for severe erosion is high unless a more permanent cover is maintained. Currently erosion is not severe, although some soil movement is inevitable and evidenced by pedestaling and terracing of plants.

A moderately dense stand of Gambel oak provides 93% of the browse cover and most of the forage production on the site. The oak numbered 9,733 stems per acre in 1984, with 36% classified as young and biotic potential (proportion of seedlings) was 12%. The available twigs had been moderately browsed. Since then, the population has become increasingly mature. Currently ('96), mature plants account for 79% of the population. Decadent plants are few and young oak are common. Utilization is mostly light.

Basin big sagebrush currently comprises only 7% of the browse cover, with 880 plants/acre estimated in 1996. The population has become more mature (68% currently) with few young and no seedlings encountered during any year sampled. Use is mostly light, yet vigor is poor on 20% of the population. Broom snakeweed has declined from 1,533 plants/acre in 1985 to only 380 by 1996.

Grasses provide some erosion control and forage. The most abundant perennial species include bulbous bluegrass and bluebunch wheatgrass. They grow best in the interspaces and appear to be suppressed by shade from the dense oak clones. Annual grasses, consisting of cheatgrass and Japanese brome, are abundant and account for 43% of the grass cover. A variety of forbs are represented and many are valuable for forage and/or watershed protection. Common perennial forbs would include bastard toadflax, yellow sweet clover and yellow salsify.

1985 APPARENT TREND ASSESSMENT

An increasing density of Gambel oak will further exclude grasses and sagebrush and could cause a downward vegetative trend. Currently, the area provides a variety of browse and herbaceous forage, but a dense stand of oak would be much like the rest of the front, which would encourage the deer to go even lower to find browse. The soil is stable at low levels of erosion, unless it is disturbed by off road vehicular activity.

1990 TREND ASSESSMENT

The density of sagebrush on this mixed oak/sage range has declined slightly. There is a higher percentage of decadent plants in the light to moderately hedged population. Although the Gambel oak provides competition to the sagebrush, the biggest threat to this winter range is the continued housing and road development just below the site. The oak has been moderately hedged by deer and its vigor has been impacted by insects and drought. Grasses, mainly bluebunch wheatgrass and bulbous bluegrass, are vigorous and abundant. Bluebunch wheatgrass is stable, but there was a loss in the density of bulbous bluegrass which can be useful in early spring. There is evidence of slight erosion and pedestaling, but overall the vegetative and litter cover is adequate to prevent serious erosion.

TREND ASSESSMENT
soil - stable (3)
browse - downward, 50% of the sagebrush was lost (1)
herbaceous understory - slightly downward (2)

1996 TREND ASSESSMENT

Trend for soil is up due to a decline in percent bare ground from 14% to 2%. Some soil movement is inevitable but erosion is not currently a problem. Trend for sagebrush is stable. The sagebrush density is similar to 1990 estimates. Percent decadence declined from 45% to 13%, but vigor is poor on 20% of the shrubs. Utilization is mostly light. Trend for Gambel oak appears stable with similar densities in 1985 and 1990. Trend for the herbaceous understory is stable with similar sum of nested frequency values for perennial grasses and forbs. Nested frequency of bluebunch wheatgrass increased while frequency of bulbous bluegrass declined significantly.

TREND ASSESSMENT
soil - up (5)
browse - stable (3)
herbaceous understory - stable (3)

HERBACEOUS TRENDS --
Herd unit 03 , Study no: 14

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'85	'90	'96	'85	'90	'96	'96
G	Agropyron intermedium	$_{b}$13	$_{a}$-	$_{ab}$11	5	-	4	.93
G	Agropyron spicatum	115	111	125	44	43	47	5.51
G	Aristida purpurea	-	-	1	-	-	1	.03
G	Bromus japonicus (a)	-	-	79	-	-	28	1.13
G	Bromus spp.	3	-	-	1	-	-	-
G	Bromus tectorum (a)	-	-	204	-	-	60	8.21
G	Poa bulbosa	$_{c}$298	$_{b}$226	$_{a}$131	83	79	41	5.52
G	Poa pratensis	$_{ab}$5	$_{b}$13	$_{a}$-	2	5	-	-
G	Poa secunda	$_{a}$3	$_{b}$17	$_{ab}$7	1	7	2	.06
G	Sporobolus cryptandrus	1	4	2	1	1	1	.00
Total for Annual Grasses		0	0	283	0	0	88	9.35
Total for Perennial Grasses		438	371	277	137	135	96	12.07
Total for Grasses		438	371	560	137	135	184	21.42
F	Agoseris glauca	1	-	4	1	-	1	.00
F	Allium spp.	-	3	-	-	1	-	-
F	Ambrosia psilostachya	$_{b}$11	$_{a}$-	$_{a}$-	5	-	-	-
F	Arenaria spp.	$_{b}$14	$_{a}$-	$_{a}$-	7	-	-	-
F	Artemisia ludoviciana	30	11	15	11	4	6	.28
F	Astragalus convallarius	3	5	15	3	2	6	.37
F	Aster spp.	3	-	-	1	-	-	-
F	Calochortus nuttallii	3	-	2	1	-	1	.03
F	Cirsium vulgare	2	-	-	1	-	-	-
F	Comandra pallida	$_{b}$69	$_{a}$18	$_{ab}$40	26	9	16	1.54
F	Crepis acuminata	$_{b}$15	$_{c}$17	$_{a}$-	6	9	-	-
F	Cryptantha spp.	-	3	-	-	1	-	-
F	Erodium cicutarium (a)	3	-	2	1	-	1	.00
F	Hackelia patens	-	-	-	-	-	-	.00
F	Hedysarum boreale	$_{b}$25	$_{ab}$10	$_{a}$3	12	6	2	.18
F	Helianthus spp.	2	-	-	1	-	-	-
F	Lactuca serriola	-	-	13	-	-	5	.02
F	Lithospermum ruderale	-	2	-	-	1	-	-
F	Lomatium spp.	-	8	-	-	3	-	-
F	Lygodesmia grandiflora	$_{c}$40	$_{a}$-	$_{b}$13	16	-	6	.17
F	Melilotus officinalis	$_{a}$-	$_{a}$-	$_{b}$92	-	-	39	7.34

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'85	'90	'96	'85	'90	'96	'96
F	Medicago sativa	6	1	1	3	1	1	.03
F	Oenothera caespitosa	2	-	-	1	-	-	-
F	Penstemon spp.	3	-	-	2	-	-	-
F	Phlox longifolia	$_{a}$3	$_{b}$71	$_{a}$26	3	29	11	.10
F	Sphaeralcea coccinea	$_{b}$56	$_{ab}$49	$_{a}$18	21	18	7	.26
F	Tragopogon dubius	$_{b}$89	$_{a}$45	$_{c}$111	41	22	50	1.43
F	Unknown forb-perennial	-	10	2	-	4	2	.06
F	Zigadenus paniculatus	15	3	11	6	2	4	.07
Total for Annual Forbs		3	0	2	1	0	1	0.00
Total for Perennial Forbs		392	256	366	168	112	157	11.92
Total for Forbs		395	256	368	169	112	158	11.93

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --
Herd unit 03 , Study no: 14

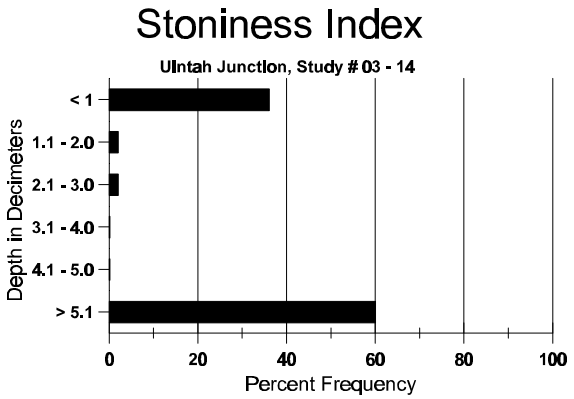
Type	Species	Strip Frequency	Average Cover %
		'96	'96
B	Artemisia tridentata tridentata	28	2.65
B	Gutierrezia sarothrae	12	.08
B	Quercus gambelii	82	34.46
Total for Browse		122	37.19

BASIC COVER --
Herd unit 03 , Study no: 14

Cover Type	Nested Frequency	Average Cover %		
	'96	'85	'90	'96
Vegetation	371	18.00	6.50	63.57
Rock	57	0	.25	3.25
Pavement	14	0	.25	.03
Litter	396	63.25	78.75	72.08
Cryptogams	2	0	.75	.00
Bare Ground	43	18.75	13.50	1.61

SOIL ANALYSIS DATA --
Herd Unit 03, Study no: 14, Uintah Junction

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
13.1	80.3 (15.7)	7.2	42.6	33.1	24.4	1.2	4.1	16.0	.5



PELLET GROUP FREQUENCY --
Herd unit 03 , Study no: 14

Type	Quadrat Frequency '96
Deer	3

BROWSE CHARACTERISTICS --
Herd unit 03 , Study no: 14

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia tridentata tridentata																		
Y	85	4	-	-	-	-	-	-	-	-	4	-	-	-	266			4
	90	-	-	-	2	-	-	-	-	-	2	-	-	-	133			2
	96	2	-	-	6	-	-	-	-	-	4	-	4	-	160			8
M	85	7	4	-	-	-	-	-	-	-	11	-	-	-	733	22	17	11
	90	2	2	-	-	-	-	-	-	-	4	-	-	-	266	22	26	4
	96	24	5	-	1	-	-	-	-	-	26	-	4	-	600	25	33	30
D	85	3	4	-	-	-	-	-	-	-	6	-	1	-	466			7
	90	2	2	-	1	-	-	-	-	-	4	-	-	1	333			5
	96	4	1	-	1	-	-	-	-	-	5	-	1	-	120			6
X	85	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	260			13

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'85	36%	00%	05%	-50%
'90	36%	00%	09%	+17%
'96	14%	00%	20%	

Total Plants/Acre (excluding Dead & Seedlings)				
'85	1465	Dec:		32%
'90	732			45%
'96	880			14%

Gutierrezia sarothrae																		
S	85	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	85	6	-	-	-	-	-	-	-	-	6	-	-	-	400			6
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	6	-	-	-	-	-	-	-	-	6	-	-	-	120			6
M	85	15	-	-	-	-	-	-	-	-	15	-	-	-	1000	9	10	15
	90	4	-	-	-	-	-	-	-	-	4	-	-	-	266	14	13	4
	96	12	-	-	1	-	-	-	-	-	13	-	-	-	260	17	22	13
D	85	2	-	-	-	-	-	-	-	-	1	-	-	1	133			2
	90	7	-	-	-	-	-	-	-	-	1	-	-	6	466			7
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'85	00%	00%	04%	-52%
'90	00%	00%	55%	-48%
'96	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
'85	1533	Dec:		9%
'90	732			64%
'96	380			0%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Opuntia spp.																		
Y	85	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	90	2	-	-	-	-	-	3	-	-	5	-	-	-	333			5
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	85	6	-	-	-	-	-	-	-	-	6	-	-	-	400	8	9	6
	90	6	-	-	-	-	-	2	-	-	7	-	1	-	533	6	11	8
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'85	00%	00%	00%	+46%
'90	00%	00%	08%	
'96	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'85	466	Dec:	-
	'90	866		-
	'96	0		-

Quercus gambelii																		
S	85	18	-	-	-	-	-	-	-	-	17	1	-	-	1200			18
	90	6	-	-	-	-	-	-	-	-	5	1	-	-	400			6
	96	53	-	-	-	-	-	-	-	-	53	-	-	-	1060			53
Y	85	51	2	-	-	-	-	-	-	-	53	-	-	-	3533			53
	90	38	21	3	2	-	-	1	-	-	45	14	6	-	4333			65
	96	66	-	-	4	-	-	-	-	-	70	-	-	-	1400			70
M	85	10	74	-	-	-	-	-	-	-	84	-	-	-	5600	32	21	84
	90	14	10	-	6	-	-	-	-	-	9	21	-	-	2000	44	30	30
	96	279	11	-	26	-	-	-	-	-	316	-	-	-	6320	36	35	316
D	85	2	7	-	-	-	-	-	-	-	9	-	-	-	600			9
	90	15	10	1	3	-	-	-	-	-	7	17	5	-	1933			29
	96	8	1	2	2	-	-	-	-	-	11	-	-	2	260			13
X	85	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	580			29

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'85	57%	00%	00%	-15%
'90	33%	03%	09%	- 3%
'96	03%	.50%	.50%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'85	9733	Dec:	6%
	'90	8266		23%
	'96	7980		3%